

NEW PERUVIAN GESNERIACEAE

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The pongo zone of the Río Marañón in Peru is exceedingly rich in endemic species. Each expedition to that remote region of northwestern Amazonian Peru has garnered many species new to science, particularly the expeditions by Tessmann in 1924 and by Mexia in 1931-1932. Both of these collectors gathered plants from the downstream end of the pongo region near Pongo de Manseriche (see Wurdack, 1964). In 1962 John Wurdack visited the pongo region from Montenegro near the upper limit of the pongo zone downstream to Borja near Pongo de Manseriche, as well as adjacent areas. From the more than 700 field collections two new species of Besleria have been described (Morton, 1968) and also, a new species of Nautilocalyx now known in the horticultural trade from seeds collected by Wurdack (Skog, 1974).

Presented here are three additional new species of Gesneriaceae collected by Wurdack, including another new species of Nautilocalyx, and new species of Monopyle and Napeanthus. Additional collections of Gesneriaceae by Wurdack are yet to be studied and will probably yield additional new taxa.

MONOPYLE FLAVA L. Skog, sp. nov. (Figure 1)

Herba erecta ad 0.5-1.5 m alta, prope basim ca 1 cm in diam., ramis brevibus. Internodia usque ad 20.5 cm longa, viridia vel ferruginea, sparse albo-pilosa vel glabrescentia. Folia opposita per paria aequalia vel valde inaequalia; petiolus sulcatus, 3-6 mm longus, 2-3 mm latus, viridis, tomentosus trichomatibus albis uncinatis adpressis; lamina membranacea, ovata vel aliquanto falcata, 6.6-21.2 cm longa, 4.1-10.8 cm lata, basi obliqua, cordata, margine crenato-dentata vel serrata, apice acuminata, supra viridis, sparsim inter venas trichomatibus dispersa vel glabrescens, infra pallide viridis secus venas pilosa. Cymae axillares, pluriflores, ad usque duplo longiores quam folia subtenta; pedunculus primarius teres, 2.8-6.7 cm longus, 1-3 mm in diam., viridis sparse pilosus; pedunculus secundarius 2.1-9.1 cm longus, divergens; bracteae primariae lineares vel lanceolatae ca 7 mm longae, 1-2 mm latae, virides, pilosae; pedicellus 0.4-1.6 cm longus, viridis, pilosus trichomatibus apicem versus densioribus. Florae tubus obliquus, globosus, 2-4 mm in diam., viridis vel rubellus, albo-pilosus, costis non visis. Calycis lobi 5, sub anthesim ca 1 mm connati, oblongi, 2-4 mm longi, 1.0-1.5 mm lati, virides, nervis prominulis, rubris vel



Figure 1. Monopyle flava L. Skog, sp. nov. (Wurdack 2104, holotype US). Photographs by V. E. Krantz, Staff Photographer, National Museum of Natural History.

atrovirentibus, apice acuto rubello, extus pilosi, intus virides, praeter glandes flavas sparsas glabri, nervis flavis. Corolla campanulata vel olliformis; tubus stamna duplo superans, 0.8-2.3 cm longus, ad basim 3-5 mm latus, ad orem 1.3-1.6 cm latus, extus flavus (fide Wurdack), albo-pilosus trichomatibus limbus versus minus densis, intus flavus, pagina inferiore basim versus marronina vel purpurea maculata, glabra; limbus 1.2-2.2 cm latus, 5-lobatus, lobis orbicularibus, glabris, margine integris, lobis superis 5-6 mm longis, 6-8 mm latis, lobis lateralibus 7-9 mm longis, 7-8 mm latis, lobo basali 0.7-1.0 cm longo, 0.7-1.3 cm lato. Stamina 4, vero discreta, filamentis curvis, ca 1 mm ad basim latis, flavis, glabris; antherae adhaerentes, 1-2 mm longae; staminodium nullum. Ovarium inferum, apice pilosum, stylo 5 mm longo, versus stigma stomatomorphum glabrescentio; discus nullus. Capsula oblonga, ad basim gibbosa, 0.8-1.0 cm longa, 3-4 mm lata, costis 5-15; semina numerosa, nigra, late fusiformia, oblique striata, ca 0.3 mm longa, 0.3 mm lata.

Type: J. J. Wurdack 2104 (holotype US, 2404406!; isotypes BH!, USM not seen, others to be distributed), collected in high rainforest along Río Marañón near Teniente Pinglo, just above Pongo de Manseriche, Provincia de Alto Amazonas, Departamento de Loreto, Peru, elev. 250-300 m, 4-7 October 1962. "Herb. 0.5-1.5 m, occasional in moist ravine. Corolla yellow; maroon-dotted in throat inside."

Other specimens examined: Peru: Departamento de Loreto, Provincia de Alto Amazonas: J. J. Wurdack 2303 (US 2404454!), rainforest on lower northwest slopes of Cerros Campanquiz, Río Marañón just above Pongo de Manseriche, elev. 250-350 m, 17 October 1962; G. Tessmann 4170 (NY!, US 2223618!), mouth of Río Santiago, on high land.

Three Peruvian species of Monopyle were treated by Morton in his revision of the South American species in 1945. All other known species of Monopyle have corolla tubes which are white to purple with a completely purple limb or with purple spots on the limb, or grading into a completely blue-purple corolla. Monopyle flava differs from the other species in having a yellow corolla, and with maroon maculae congested at the base of the corolla tube.

Evidently the most closely related species is Monopyle subsessilis Benth., typified by a Spruce collection from near Tarapoto. Monopyle subsessilis differs from the species described here by a suite of characters: the leaves are nearly always anisophyllous; inflorescences are condensed with secondary peduncles scarcely 1 cm long and not diverging; lack of an oblique floral tube; calyx lobes lanceolate, 6-9 mm long; and the corolla limb 2.0-3.3 cm broad.

Günter Tessmann also collected Monopyle flava in the same area in 1924, but the specimens at NY and US remained unidentified until the present study.

The lack of nectar-producing glands or disk and the presence of the maroon maculae at the base of the corolla suggest that Monopyle flava may be visited and pollinated by male euglossine bees in somewhat the same manner as Gloxinia perennis (Vogel, 1966).

NAPEANTHUS LORETENSIS L. Skog, sp. nov. (Figure 2)

Herba rupicola, caulis brevissimis. Folia rosulata sessilia; lamina anguste oblanceolata, 3.7-16.3 cm longa, 0.8-3.2 cm lata, membranacea, ad basim cuneata, margine minute serrata ad apicem acuta vel acuminata, supra viridis, sparse pilosa vel glabrescens, subitus pallide viridis, secus venas pilosa. Inflorescentiae pauciflorae, pedunculis tenuis teretibus, 1.0-4.7 cm longis, minus quam 1 mm in diam., ca 1 mm latis, pilosis, bracteis viridis, lanceolatis, 2-6 mm longis, ca 1 mm latis, pilosis, pedicellis 1.4-2.1 cm longis, pilosis, in fructibus elongatis. Sepala 5, e basi discreta, lanceolata vel elliptica, ca 3 mm longa, ca 1 mm lata, viridia, marginibus integris ciliatis, partibus exterioribus sparse pubescentibus, partibus interioribus glabris. Corolla pallide azurea, tubo campanulato, 2-3 mm longo, lobis 5, marginibus subintegris, superis 1-2 mm longis, ca 2 mm latis, lateralibus ca 3 mm longis, 2-3 mm latis, lobo basali ca 3 mm longo, ca 2 mm lato. Stamina quattuor aequalia, filamentis geniculatis ad basim corollae insertis, ca 1 mm longis, ad geniculum minute pubescentibus, antheris ovatis, ca 1 mm longis, ca 1 mm latis, staminodio brevissimo. Ovarium oblongum, glabrum, ca 1 mm longum, stylo ca 3 mm longo, glabro, stigmate capitato. Capsulae bi- vel quadrivalvae, ca 1.25 mm longae, seminibus oblongis, nigris, oblique striatis, ca 0.5 mm longis, 0.25 latis.

Type: J. J. Wurdack 2159 (holotype US, 2404417! isotypes BH! USM not seen), collected in high rainforest along Río Marañón near Teniente Pinglo, just above Pongo de Manseriche, Provincia de Alto Amazonas, Departamento de Loreto, Peru, elev. 250-300 m, 4-7 October 1962. "On moist cliff, occasional. Corolla pale blue-purple."

The genus Napeanthus Gardn. was revised in 1958 by Leeuwenberg who treated 12 species from Central and South America. Napeanthus loretensis differs from all other known species of Napeanthus by possessing the combination of a stemless habit, leaves narrowly oblanceolate and sparsely pilose to glabrous above, inflorescences shorter than the leaves and bearing few flowers, each flower having a calyx of 5 separate, 3-nerved sepals about 3 mm long, and a pale blue-purple corolla nearly twice as long as the calyx. This species is apparently the first Napeanthus described from



Figure 2. Napeanthus loretensis L. Skog, sp. nov. (Wurdack 2159, holotype US).

only Peru, a country from which few collections of this genus are known. Surely Napeanthus is more common in Peru than the paucity of specimens demonstrates?

NAUTILOCALYX MINUTIFLORUS L. Skog, sp. nov. (Figure 3)

Herba paene acaulescens vel suffruticosa erecta vel decumbens; caulis ad 20 cm longus, 5 mm crassus, ad basim ramificans; stolones nulli. Internodia 0.1-1.0 cm longa, viridia vel brunnescens, pilosa vel glabrescentia. Folia opposita per paria subaequalia; petiolus 0.3-1.0 cm longus, 2-3 mm latus, viridis, pilosus; lamina membranacea elliptica vel obovata, 7.4-20.5 cm longa, 3.6-10.1 cm lata, basi acuta vel truncata interdum cuneata, margine serrata vel crenata, apice acuta vel obtusa, supra atrovirens bullata pilosa trichomatibus adpressis ad bullae apicem, venis leviter immersis pallide viridibus, infra pallide viridis, secus venas flavo-virentes emersas pilosa, inter venas interdum pilosa. Inflorescentiae axillares, pluri-flores, cymosae vel racemosae quam folia subtenta usque 1/4 longiores; pedunculus gracilis, 2.1-4.1 cm longus, viridis, albo-tomentosus; pedicellus 0.6-1.0 cm longus, albo-tomentosus. Receptaculum turbinatum, 1-2 mm longum, 1-2 mm latum, viride, albo-tomentosum. Sepala 5, e basim discreta lanceolata, 3-5 mm longa, ad basim ca 1 mm lata, apice acuminata, extus pilosa, intus glabra. Corollae tubus infundibuliformis calcaratus 3-5.5 mm longus, ad basim 2 mm latus, extus sparsim pilosus, intus glaber sed ad orem pilosus, purpureo-vittatus vel maculatus; limbus ca 6 mm latus, dense glandulosus, lobis superis erectis ca 1.5 mm longis, 1.0-1.5 mm latis, lobis lateralibus patentibus 1-2 mm longis, ca 1 mm latis, lobo basali patenti, 1-2 mm longo, 1.0-1.5 mm lato. Stamina 4, inclusa; filamenta ad tubae corollae basim per ca 1 mm adnata, ca 5 mm longa, glabra, post dehiscentiam spiralia; antherae adhaerentes, loculis globosis ca 0.5 latis, dorsaliter sparsim pilosis; staminodium nullum. Ovarium ovoideum, ca 1 mm longum, pilosum; stylus ca 5 mm longus, ad basim pilosus, stigmate conspicue bilobo, glanduloso; discus 2-glandulosus, glandula posteriore 1/3 base ovario cingenti, ca 0.75 mm longa, glandula anteriore ca 0.25 mm longa. Capsula globosa, bivalvis, ca 2 mm lata; semina fusiforma, oblique striata, ca 0.3 mm longa, 0.2 mm lata, ferruginea.

Type: J. J. Wurdack 2072 (holotype US, 2404394!, isotypes BH!, USM not seen, others to be distributed), collected in high rainforest along Río Marañón near Teniente Pinglo, just above Pongo de Manseriche, Provincia de Alto Amazonas, Departamento de Loreto, Peru, elev. 250-300 m, 4-7 October 1962. "Locally frequent. Corolla white."



Figure 3. Nautilocalyx minutiflorus L. Skog,
sp. nov. (Wurdack 2072, holotype US).

This species resembles some members of the genus Cremosperma in its inflorescences of numerous small flowers, but the flowers in this plant despite their size are definitely those of a Nautilocalyx in having a spurred corolla and two discrete glands. Other species of Nautilocalyx have corollas well over 1 cm long; N. picturatus also collected by Wurdack from the valley of Río Marañón has corollas up to 4.5 cm long. The leaves of the latter species differ markedly from Nautilocalyx minutiflorus in the light green bands along the veins on the upper surface and the lower surface suffused with reddish-purple with pale green bands.

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